

# PATENT COOPERATION TREATY

PCT/EP2003/01

## PCT

From the INTERNATIONAL BUREAU

### NOTIFICATION OF TRANSMITTAL OF COPIES OF TRANSLATION OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 72.2)

To:

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Eingelangt: 20. APR. 2005

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#### IMPORTANT NOTIFICATION

International filing date (day/month/year)  
26 July 2003 (26.07.2003)

Date of mailing (day/month/year)  
14 April 2005 (14.04.2005)

Applicant's or agent's file reference  
202em03.wo

International application No.  
PCT/EP2003/008266

Applicant

CELANESE EMULSIONS GMBH et al

#### 1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

#### 2. Transmittal of the copy of the translation to the elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

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The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

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#### 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
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1211 Geneva 20, Switzerland

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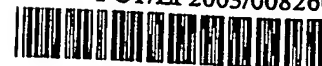
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Translation

PATENT COOPERATION TREATY

PCT/EP2003/008266



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 202em03.wo	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/008266	International filing date (day/month/year) 26 July 2003 (26.07.2003)	Priority date (day/month/year) 07 September 2002 (07.09.2002)
International Patent Classification (IPC) or national classification and IPC C08F 6/00		
Applicant CELANESE EMULSIONS GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 06 February 2004 (06.02.2004)	Date of completion of this report 13 December 2004 (13.12.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/008266

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
 pages 1-24, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages 1-24, filed with the letter of 25 November 2004 (25.11.2004)
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

- These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/EP 03/08266

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	6, 9	YES
	Claims	1-5, 7, 8, 10-24	NO
Inventive step (IS)	Claims	6, 9	YES
	Claims	1-5, 7, 8, 10-24	NO
Industrial applicability (IA)	Claims	1-24	YES
	Claims		NO

### 2. Citations and explanations

#### 1. Prior art

This report makes reference to the following documents:

D1: EP-A-1 199 315 (ROHM & HAAS) 24 April 2002  
(2002-04-24)

D2: EP-A-1 199 316 (ROHM & HAAS) 24 April 2002  
(2002-04-24)

D3: US-A-5 087 676 (HEIDER LOTHAR ET AL) 11  
February 1992 (1992-02-11).

#### 2. Amendments

Amendments - PCT Article 34(2)(b)

The amendments made by the applicant to the set of claims meet the requirements of PCT Article 34(2)(b).

#### 3. Novelty of claims 1-24

##### 3.1. Novelty over D1

The claimed subject matter according to independent claim 1 lacks novelty within the meaning of PCT Article 33(2). It is correct that, according to D1, water-soluble and water-insoluble oxidation agents are used (D1: [0011], [0012]). This case is not, however, excluded from amended claim 1 of the

present application. According to amended claim 1 of the present application, at least one oxidation agent selected from among perester, percarbonate or perketal has to be used. According to page 7, lines 6-9 of the present application, straight-chained alkyl groups with a chain length of  $C_1$  to  $C_{22}$  come under consideration as possible substituents for the peresters, percarbonates and perketal. That means that the present application is by no means restricted to the use of an oil-soluble oxidation agent. The claimed additional treatment is nothing other than a further polymerization and can therefore also be carried out under the same conditions.

Passages [0011] and [0012] of D1 are therefore prejudicial to the novelty of the subject matter of the amended claims 1-5, 7, 8 and 10-24.

### 3.2. Novelty over D2

The claimed subject matter according to independent claim 1 also lacks novelty over D2 within the meaning of PCT Article 33(2).

D2 explicitly describes a method for reducing the residual monomer content (D2: [0001], [0002], [0014], [0020], claim 5). It is correct that an additional aim is to achieve a low formaldehyde content. This, however, does not contradict the disclosure of the present application. The claimed additional treatment is nothing other than an additional polymerization and can therefore also be carried out under the same conditions, meaning that the same reaction conditions as those indicated for producing the emulsion polymer also apply. Passages [0001], [0002], [0008], [0010] - [0012] and [0014] of D2 are therefore prejudicial to the novelty of

the subject matter of the amended claims 1-4, 7, 8 and 10-24.

### 3.3. Novelty over D3

The claimed subject matter according to independent claim 1 also lacks novelty over D3 within the meaning of PCT Article 33(2).

D3 explicitly describes a method for reducing the residual monomer content (D3: claim 8). According to the teaching of D3, both water-soluble and oil-soluble oxidation agents can be used. The explicitly described benzoyl peroxide (D3: column 2, lines 61-62) is an oil-soluble compound. Furthermore, the claims of the present application are by no means restricted to oil-soluble oxidation agents.

The claimed additional treatment is nothing other than a further polymerization and can therefore also be carried out under the same conditions, meaning that the same reaction conditions as those indicated for producing the emulsion polymer also apply. D3 expressly mentions that the additional treatment can be carried out at low temperatures (D3: column 5, lines 14-30).

The following passages of D3 are therefore prejudicial to the novelty of the subject matter of amended claims 1-4, 7, 8 and 11-24: column 2, line 57 to column 3, line 15, and column 4, line 54 to column 5, lines 4-30.

### 3.4. Claims 6 and 9

The subject matter of amended claims 6 and 9 is therefore novel over the cited prior art, D1, D2 and D3, within the meaning of PCT Article 33(2).

## 4. Inventive step

## 4.1. Claims 1-5, 7, 8 and 10-24

The inventive step of claims 1-5, 7, 8 and 10-24 cannot be considered as long as the novelty of these claims has not been established.

## 4.2. Claims 6 and 9

The closest prior art is D1. D1 describes additional treatment methods involving the addition of percarbonates or peresters as oxidation agents in order to reduce the residual monomer content.

The problem to be solved is that of providing a further method for reducing the residual monomer content in aqueous polymer dispersions.

The applicant solves the problem by adding perketals as an oxidation agents (amended claim 6) or by using a mixture of 2-hydroxy-2-sulfinic acetic acid disodium salt (50-60 percent by weight), sodium sulfite (30-35 percent by weight), and 2-hydroxy-2-sulfonate acetic acid disodium salt (10-15 percent by weight) as a reducing agent.

Neither D1, which is the closest prior art, nor a combination of D1 with D2 and/or D3 describes such solutions to the problem. Therefore, the subject matter of claims 6 and 9 appears to be inventive within the meaning of PCT Article 33(3).

4.3. Since the applicant did not, however, restrict himself to the subject matter of claims 6 and 9, inventive step could not be established for the entire set of claims. Consequently, the application in its entirety does not meet the requirements of PCT Article 33(3).

## 5. Industrial applicability

The industrial applicability of the invention pursuant to PCT Article 33(4) is established in the field of the production of polymers free of residual monomers.

## 6. The application does not meet the requirements of PCT Article 33(1).